2015 Missouri Wild Turkey Brood Survey Results

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The Missouri Department of Conservation has conducted a turkey brood survey annually since 1959. During the survey, Department staff and citizen volunteers record turkey observations during summer to determine the success of the hatch. Data are collected at the county level and reported statewide and by Turkey Productivity Region (Figure 1), which are counties grouped by similar land cover composition. One of the keys to the survey's success has been the dedication of citizen volunteers. About 9,000 citizens participate in the survey, and we are grateful for their participation and contribution. To sign up for the survey, send an e-mail to Rachel.Boss@mdc.mo.gov. Write "Wild Turkey Brood Survey" in the subject line and include your name and mailing address.

In 2015, nearly 78,000 turkeys were observed during the survey. This year's statewide poult-to-hen ratio (PHR) was 1.5, which is 12% less than the 2014 ratio and the same as the previous five-year average (Figure 1, Table 1). This year's PHR was 7% greater than the 10-year average and 12% less than the 20-year average (Table 1). Poult-to-hen ratios ranged from 1.1 in the West Prairie to 1.9 in the Ozarks East (Figure 1, Table 1). Compared to the five-year average, PHRs decreased in the Lindley Breaks, Mississippi Lowlands, Northeast, Ozark Border, and West Prairie. Poult-to-hen ratios increased in the Northwest, Ozarks West, and Union Breaks. This year's PHR in the Ozarks East was the same as the five-year average (Figure 1, Table 1).

Forty-three percent of hens were observed with a brood, which is down from 45% in

2014, and 2% greater than the five-year average. Regionally, the percentage of hens observed with a brood ranged from 36% in the Northeast and West Prairie to 53% in the Mississippi Lowlands (Table 2). The statewide average number of poults per brood was 3.9, which is down from 4.4 in 2014, and 9% less than the five-year average. The average number of poults per brood ranged from 3.7 in the Mississippi Lowlands to 4.9 in the Northwest (Table 2).

The outlook for this year's fall turkey season varies regionally. In the northeastern part of the state and in portions of west-central and southwestern Missouri, finding brood flocks will likely be more challenging than in years of good production. Given greater production, prospects are better in northwestern Missouri and in much of the Ozarks. Hunters should also be mindful of trends in regional turkey abundance. From 2000–2010, the statewide PHR exhibited a 7% annual decline (Figure 2), which resulted in declines in turkey abundance in most regions. Although the PHR since 2010 has remained well below most historical values, the average for the past five years (1.6) is 33% greater than the PHR from 2006–2010. Turkey numbers are currently stable or increasing in most counties with most areas of population growth occuring in portions of northcentral, southwestern, and southeastern Missouri.

Despite increasing turkey abundance in many counties, turkey numbers in most of southern Missouri remain 10–25% below the population peak that occurred in the late 1990s and early 2000s. The statewide PHR during that time was ≥ 2.0 for five consecutive years. North of the Missouri River, turkey numbers remain 30–45% below peak numbers. Turkey populations are dynamic, however, and fluctuations in abundance are normal. With high nesting rates, large clutch sizes, and the ability to renest, turkeys have a high reproductive potential. With a few years of favorable weather conditions during the nesting and brood-rearing periods, turkey populations can rebound quickly.

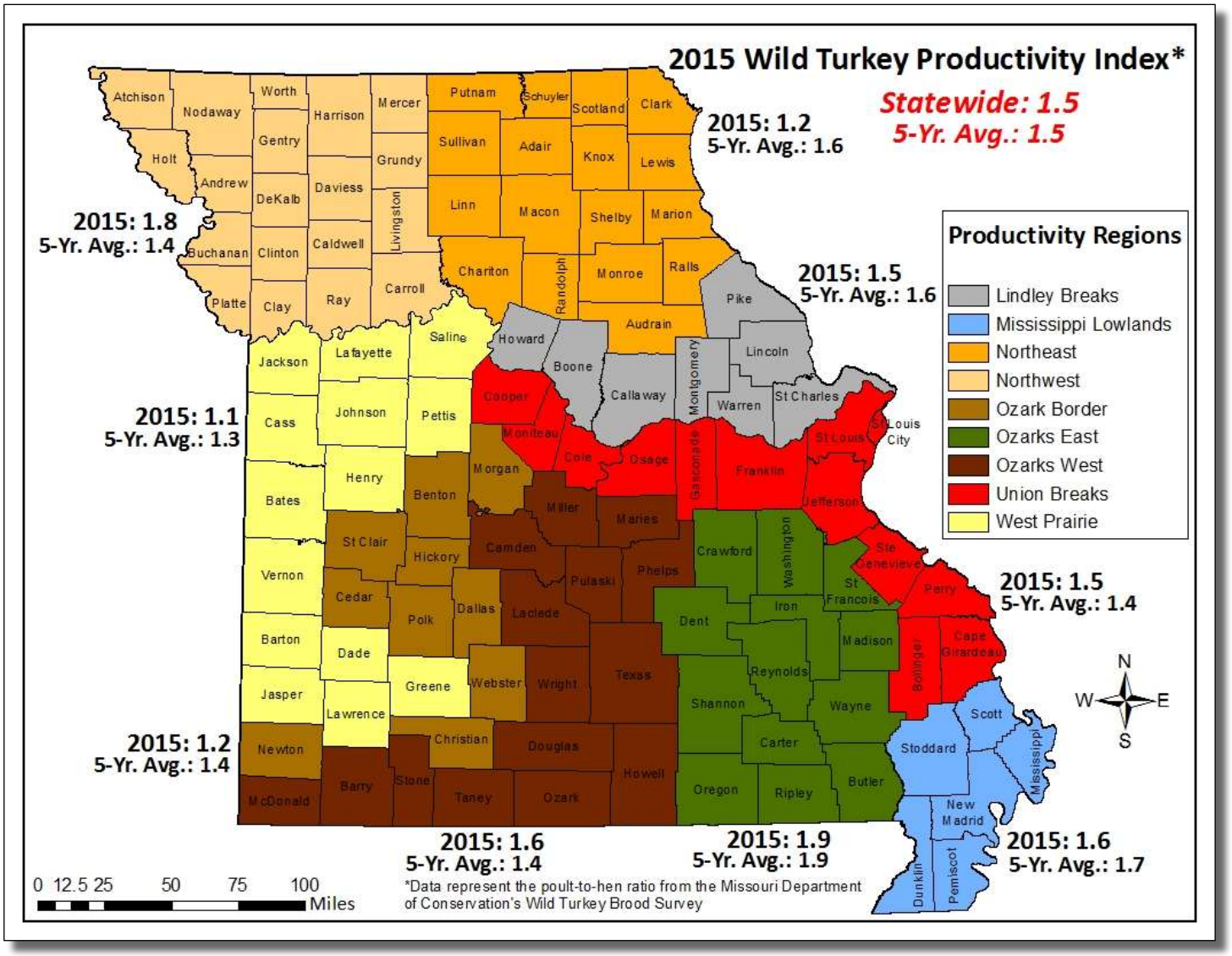

Figure 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region. Data were obtained during the Conservation Department's 2015 Wild Turkey Brood Survey and are compared to the previous five-year average.

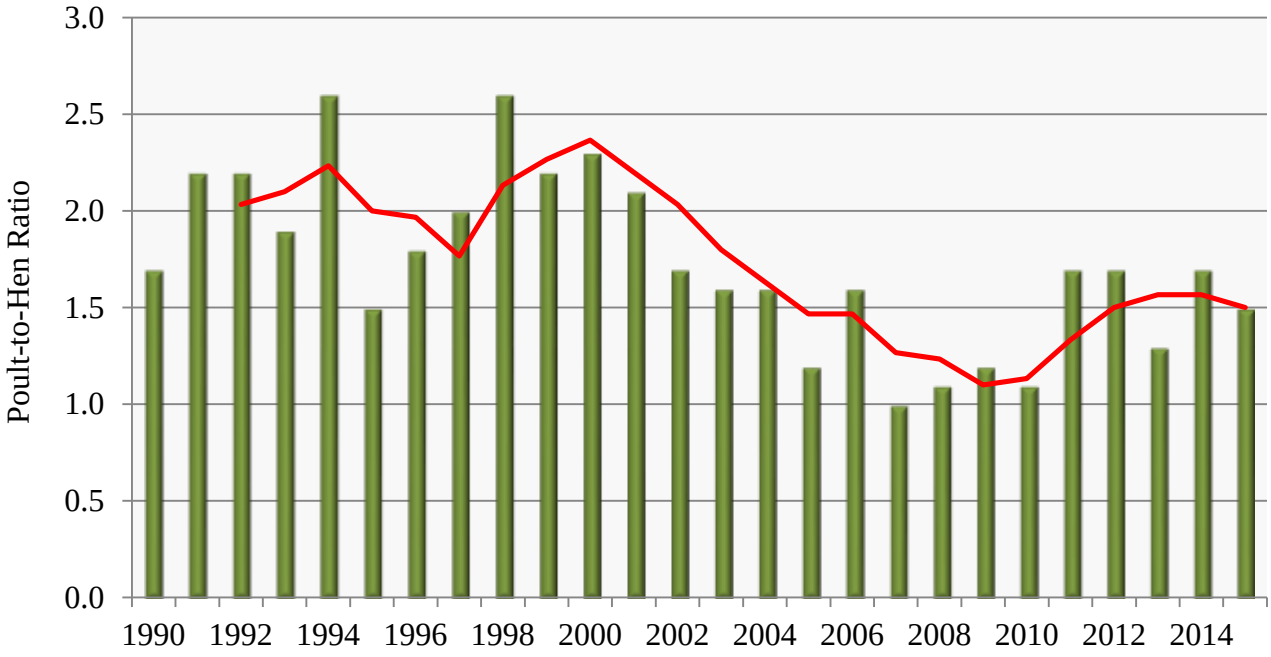

Figure 2. Statewide wild turkey productivity index (poult-to-hen ratio) in Missouri based on observations during the Conservation Department's Wild Turkey Brood Survey, 1990–2015. Red line represents 3-year moving average.

Table 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region (Figure 1). Data were obtained during the Conservation Department's Wild Turkey Brood Survey in 2015 and are compared to the previous year and the average for periodic intervals.

Productivity Region	2015 Index	1-year (2014) Change	5-year (2010–2014) Change	10-year (2005–2014) Change	20-year (1995–2014) Change
Lindley Breaks	1.5	-17%	-6%	+7%	-17%
Mississippi Lowlands	1.6	+7%	-6%	-6%	-24%
Northeast	1.2	-40%	-25%	-8%	-25%
Northwest	1.8	-5%	+29%	+38%	Same as Avg.
Ozark Border	1.2	-33%	-14%	-8%	-25%
Ozarks East	1.9	+6%	Same as Avg.	+12%	Same as Avg.
Ozarks West	1.6	+23%	+14%	+23%	Same as Avg.
Union Breaks	1.5	-12%	+7%	+7%	-6%
West Prairie	1.1	-21%	-15%	Same as Avg.	-31%
Statewide	**1.5**	**-12%**	**Same as Avg.**	**+7%**	**-12%**

Table 2. Survey data obtained during the Missouri Department of Conservation's Wild Turkey Brood Survey, listed by Turkey Productivity Region (Figure 1), 2015.

Productivity Region	% Hens w/ Brood	Average Brood Size	Poult-to-Hen Ratio	Gobbler-to-Hen Ratio
Lindley Breaks	47%	3.8	1.5	0.54
Mississippi Lowlands	53%	3.7	1.6	0.45
Northeast	36%	4.0	1.2	0.76
Northwest	43%	4.9	1.8	0.73
Ozark Border	37%	3.8	1.2	0.88
Ozarks East	50%	4.2	1.9	0.38
Ozarks West	43%	4.2	1.6	0.67
Union Breaks	47%	4.0	1.5	0.61
West Prairie	36%	4.0	1.1	0.91
Statewide	**43%**	**3.9**	**1.5**	**0.68**